**Page Object Model Implementation**

1. Folder Structure

A screenshot of a computer

Description automatically generated

1. config.properties

baseUrl=https://demo.guru99.com/v3/index.php

username=mngr572089

password=uvAzEsa

homeUrl=https://demo.guru99.com/v3/manager/Managerhomepage.php

1. log4j.properties

# Define the root logger level and appender

log4j.rootLogger=ALL, RollingAppender

# Define the rolling appender

log4j.appender.RollingAppender=org.apache.log4j.DailyRollingFileAppender

log4j.appender.RollingAppender.File=logs/app.log

# Define the rolling appender's layout

log4j.appender.RollingAppender.layout=org.apache.log4j.PatternLayout

log4j.appender.RollingAppender.layout.ConversionPattern=%d [%t] %-5p %c - %m%n

# Define the rolling appender's date pattern for rolling files daily

log4j.appender.RollingAppender.DatePattern='.'yyyy-MM-dd

1. pageobject/LoginPage.java

package com.example.pageobject;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.support.FindBy;

import org.openqa.selenium.support.PageFactory;

public class LoginPage {

    private WebDriver driver;

    @FindBy(name = "uid")

    private WebElement usernameInput;

    @FindBy(name = "password")

    private WebElement passwordInput;

    @FindBy(name = "btnLogin")

    private WebElement loginButton;

    public LoginPage(WebDriver driver) {

        this.driver = driver;

        PageFactory.initElements(driver, this);

    }

    public void setUserName(String uname) {

        usernameInput.sendKeys(uname);

    }

    public void setPassword(String pwd) {

        passwordInput.sendKeys(pwd);

    }

    public void clickButton() {

        loginButton.click();

    }

}

1. pageobject/HomePage.java

package com.example.pageobject;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.support.FindBy;

import org.openqa.selenium.support.PageFactory;

public class HomePage {

     private WebDriver driver;

    @FindBy(linkText = "New Customer")

    private WebElement newCustomer;

    public HomePage(WebDriver driver) {

        this.driver = driver;

        PageFactory.initElements(driver, this);

    }

    public void clickNewCustomer() {

        newCustomer.click();

    }

}

1. testcases/BaseClass.java

package com.example.testcases;

import org.apache.log4j.Logger;

import org.apache.log4j.PropertyConfigurator;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.chrome.ChromeOptions;

import org.openqa.selenium.remote.RemoteWebDriver;

import org.testng.annotations.AfterClass;

import org.testng.annotations.BeforeClass;

import com.example.util.ReadConfig;

import io.github.bonigarcia.wdm.WebDriverManager;

import java.net.MalformedURLException;

import java.net.URL;

public class BaseClass {

    ReadConfig config=new ReadConfig();

//    / public String baseUrl="https://demo.guru99.com/v3/index.php";

//     public String uername="mngr562996";

//     public String password="avAvYbe";

public String baseUrl=config.getUrl();

public String uername=config.getUsename();

public String password=config.getPassword();

public String homeUrl=config.getHomeUrl();

    public static WebDriver driver;

public static Logger logger;

    @BeforeClass

    public void setUp() throws MalformedURLException

    {

        ChromeOptions chromeOptions = new ChromeOptions();

        driver = new RemoteWebDriver(new URL("http://localhost:4444/"), chromeOptions);

        logger = Logger.getLogger("ebanking");

        PropertyConfigurator.configure("/home/coder/project/workspace/demo/src/main/resources/log4j.properties");

    }

    @AfterClass

    public void close()

    {

        driver.quit();

    }

}

1. testcases/LoginTest.java

package com.example.testcases;

import org.testng.Assert;

import org.testng.annotations.Test;

import com.example.pageobject.HomePage;

import com.example.pageobject.LoginPage;

public class LoginTest extends BaseClass

{

    @Test(priority=0)

    public void loginTest() throws InterruptedException

    {

        driver.get(baseUrl);

        Thread.sleep(3000);

        logger.info("URL Opened");

        LoginPage lpage=new LoginPage(driver);

        lpage.setUserName(uername);

        Thread.sleep(3000);

        logger.info("username Entered");

        lpage.setPassword(password);

        logger.info("passwrod Entered");

        Thread.sleep(3000);

        lpage.clickButton();

        logger.info("Button Clicked");

        Thread.sleep(3000);

    }

    @Test(priority=1)

    public void home() throws InterruptedException

    {

        driver.get(homeUrl);

        Thread.sleep(3000);

        logger.info("home page opened");

        HomePage hpage=new HomePage(driver);

        hpage.clickNewCustomer();

        Thread.sleep(2000);

        logger.info("Clicked on New Customer");

    }

}

1. util/ReadConfig.java

package com.example.util;

import java.io.File;

import java.io.FileInputStream;

import java.io.FileNotFoundException;

import java.io.IOException;

import java.util.Properties;

public class ReadConfig {

Properties pro;

public ReadConfig()

{

    File src=new File("/home/coder/project/workspace/demo/Configuration/config.properties");

    try{

    FileInputStream fis=new FileInputStream(src);

    pro=new Properties();

    pro.load(fis);

    }

    catch(Exception e)

    {

        System.out.println(e);

    }

}

public String getUrl()

    {

        String url=pro.getProperty("baseUrl");

        return url;

    }

    public String getUsename()

    {

        String username=pro.getProperty("username");

        return username;

    }

    public String getPassword()

    {

        String password=pro.getProperty("password");

        return password;

    }

    public String getHomeUrl()

    {

        String homeUrl=pro.getProperty("homeUrl");

        return homeUrl;

    }

}

**Hybrid Implementation**

1. **Folder Structure**

**A screenshot of a computer

Description automatically generated**

1. **Keywords/keywords.java**

package com.example.keywords;

import com.example.pageobject.HomePage;

import com.example.pageobject.LoginPage;

import com.example.util.ReadConfig;

import com.example.util.ReadExcel;

import java.io.IOException;

import org.openqa.selenium.WebDriver;

public class Keywords {

    public ReadConfig config = new ReadConfig();

    public ReadExcel excel = new ReadExcel(); // Create an instance of ReadExcel

    public static WebDriver driver;

    LoginPage loginPage;

    HomePage homePage;

    public Keywords(WebDriver driver) {

        this.loginPage = new LoginPage(driver);

        this.homePage = new HomePage(driver);

    }

    public void login(String username, String password) throws IOException {

        //driver.get(config.getUrl());

        //driver.get("https://demo.guru99.com/v3/index.php");

        loginPage.setUserName(username);

        loginPage.setPassword(password);

        loginPage.clickButton();

    }

    public void navigateToHomePage() {

        //driver.get(config.getHomeUrl());

        System.out.println("Navigated");

    }

    public void clickNewCustomer() {

        homePage.clickNewCustomer();

    }

}

1. **Baseclass.java**

package com.example.testcases;

import org.apache.log4j.Logger;

import org.apache.log4j.PropertyConfigurator;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.chrome.ChromeOptions;

import org.openqa.selenium.remote.RemoteWebDriver;

import org.testng.annotations.AfterClass;

import org.testng.annotations.BeforeClass;

import com.example.util.ReadConfig;

import io.github.bonigarcia.wdm.WebDriverManager;

import java.net.MalformedURLException;

import java.net.URL;

public class BaseClass {

    ReadConfig config=new ReadConfig();

//    / public String baseUrl="https://demo.guru99.com/v3/index.php";

//     public String uername="mngr562996";

//     public String password="avAvYbe";

public String baseUrl=config.getUrl();

//public String uername=config.getUsename();

//public String password=config.getPassword();

public String homeUrl=config.getHomeUrl();

    public static WebDriver driver;

public static Logger logger;

    @BeforeClass

    public void setUp() throws MalformedURLException

    {

        ChromeOptions chromeOptions = new ChromeOptions();

        driver = new RemoteWebDriver(new URL("http://localhost:4444/"), chromeOptions);

        logger = Logger.getLogger("ebanking");

        PropertyConfigurator.configure("/home/coder/project/workspace/demo/src/main/resources/log4j.properties");

    }

    @AfterClass

    public void close()

    {

        driver.quit();

    }

}

1. LoginTest.java

package com.example.testcases;

import java.io.IOException;

import org.testng.annotations.DataProvider;

import org.testng.annotations.Test;

import com.example.keywords.Keywords;

import com.example.util.ReadExcel; // Import ReadExcel for DataProvider

public class LoginTest extends BaseClass {

    @DataProvider(name = "testData")

    public Object[][] getData() throws IOException {

        return ReadExcel.getData("/home/coder/project/workspace/demo/src/test/java/com/example/testdata/data.xlsx"); // Replace with your actual sheet name

    }

    @Test(priority = 0, dataProvider = "testData")

    public void loginTest(String username, String password) throws InterruptedException, IOException {

        driver.get(baseUrl);

        Keywords keywords = new Keywords(driver);

        System.out.println(username);

        keywords.login(username, password);

        Thread.sleep(5000);

        //logger.info("Login successful for test: " + testName);

    }

    @Test(priority = 1)

    public void homePageTest() throws InterruptedException {

        driver.get(homeUrl);

        Thread.sleep(5000);

        Keywords keywords = new Keywords(driver);

        keywords.navigateToHomePage();

        keywords.clickNewCustomer();

        Thread.sleep(5000);

        logger.info("Navigated to home page and clicked New Customer");

    }

}

4.data.xlsx

Username Password

5.ReadConfig.java

package com.example.util;

import java.io.File;

import java.io.FileInputStream;

import java.io.FileNotFoundException;

import java.io.IOException;

import java.util.Properties;

public class ReadConfig {

Properties pro;

public ReadConfig()

{

    File src=new File("/home/coder/project/workspace/demo/Configuration/config.properties");

    try{

    FileInputStream fis=new FileInputStream(src);

    pro=new Properties();

    pro.load(fis);

    }

    catch(Exception e)

    {

        System.out.println(e);

    }

}

public String getUrl()

    {

        String url=pro.getProperty("baseUrl");

        return url;

    }

    // public String getUsename()

    // {

    //     String username=pro.getProperty("username");

    //     return username;

    // }

    // public String getPassword()

    // {

    //     String password=pro.getProperty("password");

    //     return password;

    // }

    public String getHomeUrl()

    {

        String homeUrl=pro.getProperty("homeUrl");

        return homeUrl;

    }

}

6.ReadExcel.java

package com.example.util;

import java.io.File;

import java.io.FileInputStream;

import java.io.FileNotFoundException;

import java.io.IOException;

import org.apache.poi.ss.usermodel.Cell;

import org.apache.poi.ss.usermodel.Row;

import org.apache.poi.ss.usermodel.Sheet;

import org.apache.poi.ss.usermodel.Workbook;

import org.apache.poi.xssf.usermodel.XSSFWorkbook;

public class ReadExcel {

    public static Object[][] getData(String fileName) throws IOException {

        // Create a FileInputStream to read the Excel file

        FileInputStream inputStream = new FileInputStream(new File(fileName));

        // Create a Workbook object for the Excel file

        Workbook workbook = new XSSFWorkbook(inputStream);

        // Get the first sheet of the Excel workbook

        Sheet sheet = workbook.getSheetAt(0);

        // Get the number of rows in the sheet

        int rowCount = sheet.getPhysicalNumberOfRows();

        // Create a 2D array to store test data

        Object[][] data = new Object[rowCount - 1][2]; // Subtract 1 for header row

        // Iterate over all the rows in the Excel sheet (skipping the header row)

        for (int i = 1; i < rowCount; i++) {

            Row row = sheet.getRow(i);

            // Get data from columns

            String username = row.getCell(0).getStringCellValue();

            String password = row.getCell(1).getStringCellValue();

            // Store data in the array

            data[i - 1][0] = username;

            data[i - 1][1] = password;

        }

        // Close the workbook and input stream

        workbook.close();

        inputStream.close();

        return data;

    }

}

1. No change in homepage and LoginPage classes